

SANARIA INC. AND SEATTLE CHILDREN'S RESEARCH INSTITUTE ANNOUNCE COLLABORATION FOR DEVELOPMENT OF GENETICALLY ATTENUATED MALARIA VACCINES

ROCKVILLE, MD and SEATTLE, WA, USA – October 19, 2021 - Sanaria Inc. and Seattle Children's Research Institute are proud to announce the signing of an agreement to collaborate on the development and commercialization of next generation PfSPZ vaccines attenuated by genetic engineering. Sanaria Inc. is the producer of the world's first and only live radiation and chemically attenuated *Plasmodium falciparum* (Pf) whole malaria parasite sporozoite (SPZ) vaccines. Sanaria® PfSPZ Vaccine and Sanaria® PfSPZ-CVac vaccine have shown 100% protective efficacy against controlled human malaria infection with highly variant Pf parasites and importantly, protection against Pf infection in multiple trials in Africa. Dr. Stefan Kappe's and Dr. Ashley Vaughan's laboratories at Seattle Children's Research Institute are world leaders in genetically engineering Pf parasites to create attenuated strains for vaccination.

The first joint project will develop a genetically attenuated, late liver stage-arresting replication competent (LARC) Pf parasite created in Dr. Stefan Kappe's laboratory at Seattle Children's (US Patent 10,905,753). These parasites are engineered to infect the liver and replicate, but do not leave the liver, allowing the immune system to safely generate potent protective immune responses. The PfSPZ-LARC vaccines will complement and improve on Sanaria's first generation, radiation attenuated PfSPZ Vaccine, and replace the more potent PfSPZ-CVac vaccine. As compared to PfSPZ Vaccine, the PfSPZ-LARC vaccines are expected to provide better protection against malaria at a much lower dose, and thus will dramatically lower costs per dose, and like PfSPZ CVac, arrest late in liver stage and thus provides a broader spectrum immune response. The teams' goal is the fielding of a malaria vaccine that prevents Pf infection in greater than 90% to 95% of recipients, and it is anticipated that a PfSPZ-LARC vaccine will meet this objective. The agreement also anticipates the development of additional genetically engineered PfSPZ vaccines to further improve protection.

"There are hundreds of millions of cases and at least half a million deaths from malaria every year," said Dr. Stephen Hoffman, Sanaria's Chief Executive and Scientific Officer. "We are incredibly excited about our collaboration with Seattle Children's and the potential for the products that will arise from this collaboration. PfSPZ-LARC vaccines will form the foundation of next generation, highly protective vaccines to eliminate malaria. We have worked successfully with Dr. Kappe and Dr. Vaughan and their teams for many years, and this agreement solidifies our collaboration for years to come."

Dr. Stefan Kappe, lead investigator for Seattle Children's team, said, "We are thrilled to have a partner like Sanaria, which can develop, manufacture, clinically assess, and commercialize the genetically engineered parasites that arose from our research."

About Sanaria Inc.

[Sanaria Inc.](#) is a biotechnology company based in Rockville, Maryland (USA) that is developing whole parasite PfSPZ Vaccines to protect against malaria. Sanaria's vaccines have been shown to be highly protective against *Plasmodium* infections in humans. Sanaria's vaccines will be used to prevent malaria in individuals and in combination with other malaria control measures to stop malaria transmission and eliminate malaria in defined geographic regions.

About Seattle Children's Research Institute

As one of the nation's top five pediatric research centers, [Seattle Children's Research Institute](#) is dedicated to providing hope, care and cures to help every child live the healthiest and most fulfilling life possible. Within the research institute is the [Center for Global Infectious Disease Research](#), whose goal is to make transformative scientific advances that lead to the prevention, treatment and cures of infectious diseases impacting children and families around the world.

Forward Looking Statement

Except for historical information, this news release contains certain forward-looking statements that involve known and unknown risk and uncertainties, which may cause actual results to differ materially from any future results, performance or achievements expressed or implied by the statements made. Such statements include the availability of an effective vaccine, the expectations for conquering malaria, beliefs concerning the suitability of a successful vaccine, and the establishment of a path toward prevention of infection. These forward-looking statements are further qualified by important factors that could cause actual results to differ materially from those in the forward-looking statements.

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